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Analysis of the readiness to buy cultural tourism online by means of latent variable models

Pulido-Fernández, J. I. *
Department of Economics, University of Jaén (Spain)

Sánchez-Rivero M.
Department of Economics, University of Extremadura, Badajoz (Spain)

ABSTRACT

The offer of tourism products online has increased considerably in recent years. The degree of acceptance of this new form of purchasing tourism products and services on the demand side is influenced by variables of different nature. While today's tourists routinely use online consultation for any particular destination, online booking is not as common as might have been expected, and actually purchasing online is decidedly uncommon. The aim of this study was to determine which aspects most affect the readiness to buy tourism products online. To this end, the data from a survey were used as input to different latent models with errors of measurement to segment demand in terms of attitude towards online purchases of tourism products and services.

Keywords: Internet, Purchase online, Latent class analysis, Conditional probabilities, Segmentation

* E-mail address: jipulido@ujaen.es - Phone: +34 953 212070

1. Introduction

Since its inception, the Internet has caused a revolution in marketing tourism, thanks to the emergence of new distribution channels and the availability of powerful communications tools for destinations, businesses, and customers, with global and relatively inexpensive access. The development of new Internet-based distribution technologies has undoubtedly been the principal technological innovation revolutionizing the travel industry, generating new business models and changing the structure of the distribution channels for tourism products and services.

The main reasons behind the interest in the Internet as a tourism distribution tool are (Vázquez, Suárez & Díaz, 2008, p. 164-165):

1. The possibility of selling travel massively without needing to deploy an extensive branch network, which in effect means the elimination of barriers to entry.
2. Increasing disintermediation for most providers of tourism products and services.
3. Internet's major influence on the change in tourists' consumption habits, with increased custom-designed travel arrangements as against the purchase of standardized package tours.
4. The client has more information about destinations, products, and services, promoting greater transparency in pricing, and hence allowing different offers on the market to be compared, contributing to increased competition.

In this context, business and tourist destinations are redirecting their technology investments to the demand's new requirements. The commitment to accessibility, i.e., the ease with which one can find information about destinations and businesses in most search engines, as well as the increasing security achieved in the purchasing process and the quantity and relevance of the products and services offered, have all contributed over the last decade to the growth of online vacation purchases together with increasing customer loyalty to these new forms of distribution. This has allowed certain destinations and tourism companies to position themselves in the forefront of technology, and consequently in the leadership of Internet sales.

However, the use of these tools for promotion and distribution in the tourism sector is subject to two restrictions (García & Sancho, 2006): (i) the development of the information generated on the Internet by tourism businesses and destinations, and (ii) the level of use of Information and Communication Technologies (ICTs) on the demand side as a tool for finding information and/or purchasing tourism products online.

The importance of Internet in the distribution of travel, and thus on the competitive positioning of any given destination in the market, may be especially important in the case of emerging tourist destinations which have little market power and reduced financing capacity with which to influence demand with large investments in marketing campaigns. Internet in these cases can represent a competitive advantage of the first order.

An example may be the case of the so-called "medium-sized towns in Andalusia". This region receives more than 25 million tourists each year, and is one of the best known and most solidly established in international tourism markets, thanks mainly to its offer of coastal resorts and the urban icons of Cordoba, Granada, and Seville. It also has a significant number of medium-sized towns (e.g., Alcala la Real, Antequera, Arcos de la Frontera, Carmona, Estepa, Loja, Lucena, Ronda, Úbeda-Baeza, etc.) with historical significance and current operational and administrative importance, but above all an extraordinary quantity of resources (primarily heritage) with tourism potential. These now constitute a basic component in the structuring and territorial ordination of Andalusia, and, with their social and economic dynamism, may in the next few years also become a key element in the diversification of tourism in Andalusia by means of cultural tourism (Pulido & Sánchez, 2010). But to this end it is necessary to "rethink" the role that tourism can play in these towns, defining new strategies for its development and new management models. And in this

context, knowledge of the habits of Internet users is essential to capture new clients, as also is knowledge of the behaviour of the existing tourism clients of these towns with respect to the online purchase of tourism products and services.
Consequently, the objective of the present study was to determine the technology-using capacity of these towns' current tourism demand, and its willingness to buy tourism products online. To this end, we used techniques of latent class analysis to segment this demand, yielding groups of homogeneous behaviour in order to facilitate decision-making by policy makers in their market positioning strategies. The novelty of the work is not so much in the segments which the process led to, as in the methodological approach used for the segmentation. This, unlike other techniques such as cluster analysis, allows the segments obtained to be ranked on a scale from the tourist's low to high readiness to buy online.

2. Online purchase of tourism products and services

The Internet has in recent years become a very useful tool for marketing tourism products and services. Several authors (Hae, Hailin & Yoo, 2007; Kamarulzaman, 2007; Kim, Ma & Kim, 2006; Suárez, Vázquez & Díaz, 2004; Suárez, Díaz & Vázquez, 2007) have noted that this expansion of the sales of tourism by Internet has been facilitated by, inter alia, the elimination of intermediaries, the great flexibility that tourism providers have in order to offer individual packages, and the possibility that the tourist has to compare different offers, to book and buy tourism products and services any time, anywhere, etc.
Online purchases of tourism products and services have grown exponentially in recent years. According to data reported by Jupiter Research (2006), it is expected that by 2010 Europe will have 60 million consumers who buy travel online. Indeed, the Internet allows a more individualized interaction with the customer, as well as a cheaper and more fluid exchange of information. This has revolutionized the world of intermediation by transforming one of the most relevant and valued functions of the travel agent – the role of consultant and advisor.
Despite this growth, the risk perceived by the buyer is still a major, if not the most important, factor influencing online purchasing behaviour (Forsythe & Shi, 2003; Grewal, Iyer & Levy, 2004; Kuhlmeier & Knight, 2005; Laroche, Bergeron & Goutaland, 2003). This is especially so with respect to insecurity in monetary transactions. It is very common for consumers to associate risk with buying online, and this may be one of the reasons explaining the still small percentage of online shoppers. Furthermore, it must be borne in mind that the perceived risk in buying online tourism products and services is greater than the perceived risk in the online purchase of other products (Chen, 2006; Kamarulzaman, 2007; Lubbe, 2007).
Solving this problem is a particularly important challenge for the future of business online, and in this sense there are interesting ongoing initiatives aimed at conveying confidence to the customer (Chen, 2006; Lee, Fiore & Kim, 2006). In any event, sooner or later – although everything seems to indicate that it will be sooner rather than later – this distrust will fade and more and more people will get accustomed to conducting their transactions online. Studies conducted so far in the context of tourism (Buhalis, 2003; Hae et al., 2007) have shown that once customers take the first step in purchasing through this distribution channel they are very unlikely to stop, because they find that the Internet is a “great saver” of time and often of money.
In the Spanish case, the eleventh study conducted by the AIMC (February 2009) found that 56.7% of respondents access the Internet several times a day from home, 30.3% access it every or nearly every day, and only 2.7% rarely or never access it. According to the report, 75.5% of respondents had in the last year made some purchasing decision for a product or service guided, motivated, or informed by content on the Web, showing the tremendous influence that the Internet has today on the purchasing decisions of potential customers. To this has to be added that 26.5% of respondents had made purchases over the Web during

the past 2 or 3 years, and the percentage who now buy regularly online (more than 10 times a year) amounts to 16.2%. Only 17.2% state that they never buy anything through Internet.
According to the National Telecommunications and Information Society Observatory (ONTSI, 2008), in 2007 e-commerce in Spain had a turnover of more than 4700 million euros. This was an increase of 71.4% over 2006, far exceeding the average growth of the previous two years, which showed increases of 25–30%. Users' stated level of experience in the use of Internet is very high: 51.9% said that they connect daily, and the figure rises to almost nine in ten (87.5%) for those who connect at least once a week. The most intensive users of the Internet have the following sociodemographic profile: male, younger than 24 years, resident in towns of more than 100 000, university graduates, and with a high and medium-high socioeconomic level.
Tourism and leisure activities remain the most important targets of online purchasing in Spain. In particular, the purchase of travel tickets (plane, train, bus, ship…) (48.8%), tickets for shows (36.5%), and reservations of lodging (35.3%) were the star products in the ranking of purchases over the Net in 2007. In Europe also, the products and services that are most purchased online are travel tickets (54%), followed by holidays in general (42%). In any case, Internet use in Spain is still below the European average, and in this context, so is the Spanish customer's readiness to purchase online, which may explain some of the results obtained in the present study.
According to the latest *PhoCusWright's European Online Travel Overview*[1] report (January 2009), Spain's online tourism market is the fastest growing in Europe, followed by Italy. Furthermore, the rate of Internet penetration in the Spanish tourism sector is forecast to increase from the 17% of 2007 to 26% in 2010. The study points out that Italy is growing faster than the European average, and almost half of its online sales are generated by low cost companies. The UK is by far the largest market, accounting for more than a third of the European tourism sales via Internet. It is followed in size by France and Germany, in the latter of which, online bookings account for one fifth of the country's total. Regarding the Scandinavian region, it is forecast to become the second European market by 2010. At present, leisure tourism bookings made online represent 29% of billings overall in the countries surveyed. Moreover, the projected growth rate is significantly higher than that of the total bookings. However, it is of course expected that as certain tourist markets approach digital maturity, their pace of growth will slow down.
It is true that information about tourism consumer behaviour on the Internet, both in Spain and internationally, depends on the type of study, the variables used, the selected sample population, the methodological approach, the company that carried the study out, etc. But however the specific figures may vary according to the report in question, the trend is clear: all of the literature that we reviewed for this work is in agreement that e-commerce in travel shows an increasing trend worldwide. It is thus also generating burgeoning interest among the agents involved, particularly small businesses and managers of emerging destinations. The Internet is causing major changes in the processes of promoting, marketing, and distribution of tourism, and has become the mainstay of the sector's process of disintermediation (Buhalis, 2003, Sheldon, 2007; Werthner & Klein, 1999). The possibility of creating a virtual point of sale, without the need for physical support, means that any supplier of tourism can market its products and services directly to end users without having to resort to wholesalers or retailers.
Hence, the decision of tourism companies and/or destinations to distribute their products and services through Internet not only helps to meet the needs of a specific customer group, but also provides them with new tools with which they can both further strengthen their relationship with existing customers and at the same time attract new ones (Hae et al.,

[1] http://www.phocuswright.com/. This report examines the online sector of the travel industry in Europe and six of its key markets: Spain, Italy, France, Germany, UK, and the Scandinavian region.

2007). This will make it easier for them to survive and compete in the market (Booth & Philip, 1997; Buhalis, 1998, 2003; Cronin & McKim, 1996; Denning & Rous, 1995; Schertler, 1998; Sheldon, 2007).

3. Linear scales and segmentation: Models with response errors

Market segmentation allows a better identification and understanding of clients' needs and desires and of their responses to certain real or potential offers. The more information that policymakers have available about the market and the sub-groups or segments of which it is comprised, the easier they will find it to design products or services that better satisfy their clients. In this sense, therefore, market segmentation will be converted into a competitive advantage (Dolnicar, 2007). As Smith originally noted (1956, p.5): "market segmentation tends to produce depth of market position in the segments that are effectively defined and penetrated".

In tourism, market segmentation has developed into a common tool of strategic marketing. It can be applied by any unit operating in the tourism industry – hotels, travel agencies, tourist attractions, restaurants, local charities, etc. – including, in particular, a tourism destination. The great advantage of market segmentation in tourism is that it allows any destination to consider in greater depth those aspects that improve the satisfaction of a particular group of its clients, thereby specializing in providing a far more professional, complex, and differentiated service.

The attitude of tourism consumers to online purchasing can be measured using various dichotomous items that quantify the consumers' expressed degree of acceptance of new technologies as a medium for commercial transactions. Assuming that the attitude towards online purchasing is a latent (unobserved) variable, its measure can be made by means of so-called latent class analysis (Dayton, 1998; Hagenaars, 1993; Heinen, 1996; McCutcheon, 1987).

One of the main uses of restricted latent class analysis models is to analyze the scalability of a set of dichotomous variables. This is achieved using a Guttman scale (see Guttman, 1947), which assumes that a set of dichotomous items can be ranked according to their degree of difficulty on a one-dimensional scale of the latent phenomenon. In this way, each variable identified represents a certain degree of "difficulty" towards the latent phenomenon.

Thus, if we consider 4 dichotomous items (A, B, C, and D) to measure a latent phenomenon, and assume that they are ranked in order of increasing difficulty, an affirmative response (code 1) to item A is a prerequisite for an affirmative response to item B. In turn, an affirmative response to item B is a prerequisite for an affirmative response to item C, etc. The order relations between the four items used can be represented as follows:

$$A \rightarrow B \rightarrow C \rightarrow D$$

where the arrow (→) is to be read as "is the prerequisite for". Of the total of 16 vectors of possible responses to these 4 dichotomous items, only {0000} {1000} {1100} {1110} {1111} are allowed, since the other 11 vectors represent errors in the tourism consumer's response.

For the present study, the four indicators used were obtained from a survey of 3000 tourists who visited some one of the so-called medium-sized towns in Andalusia. Of these, only 962 responded to all the questions relating to behaviour concerning online purchases of tourism products, so that the study focused on that group. These indicators are defined as follows:

U: [Use] Did you use the Internet to organize your trip to Andalusia?

C: [Consultation] Did you make online queries for information about the possible existence of joint transport and accommodation programs?

R: [Reservation] Did you reserve online a joint transport and accommodation program?

B: [Buy] Did you purchase online a joint transport and accommodation program?

It is clear that the order relation between these 4 items is U → C → R → B.
Each of the five possible vectors represents a latent class or segment. The relative size of this segment is determined by the probability $\prod_t^X$ of the latent class. I.e., the number of latent classes is always equal to the number of items used plus one.
The main drawback of the Guttman scale is its deterministic nature, since it considers that the unallowed response vectors will not arise in reality, i.e., they will possess null observed frequencies. This unrealistic assumption has led to a series of alternative models, all derived from the basic latent class analysis model, which assume the existence of a measurement error. The unallowed response vectors may have non-zero observed frequencies (errors of measurement). For example, some consumers may have booked a program directly without previously having made queries online (i.e., {1010}). Other consumers may have used the Internet exclusively to buy a tourism product or service, without having made prior queries or reservations (i.e., {1001}).
In the following, we briefly present some of the probabilistic alternatives to the deterministic Guttman scale based on latent class analysis.

Proctor model
Let be the conditional probability that a consumer belonging to the class *t* (*t* = 1, 2, 3, 4, 5) of the latent variable X (in our case, the latent variable is the willingness to purchase online tourism products and services) will respond to item I in category *i* (*i* = 1 , affirmative; *i* = 0 , negative).
Unlike the Guttman scale, which considers that all consumers in class 4 ({1110}) will respond affirmatively to the first three items and negatively to the last, the Proctor model considers that the responses of the consumers of this latent class are subject to error. Thus, if a consumer of class 4 responds negatively to one or more of items U, C, and R, an error will have occurred in the response. Likewise, there will have been an error in the response if a consumer of this class responds positively to item B.
Proctor (1970) assumes that these response errors are equal for all items and all latent classes. The Proctor model can therefore be obtained from the general latent class analysis model by just imposing the following constraints on the conditional probabilities:

$$\begin{aligned}
&\prod_{11}^{\bar{U}X} = \prod_{11}^{\bar{C}X} = \prod_{11}^{\bar{R}X} = \prod_{11}^{\bar{B}X} = \\
&= \prod_{02}^{\bar{U}X} = \prod_{12}^{\bar{C}X} = \prod_{12}^{\bar{R}X} = \prod_{12}^{\bar{B}X} = \\
&= \prod_{03}^{\bar{U}X} = \prod_{03}^{\bar{C}X} = \prod_{13}^{\bar{R}X} = \prod_{13}^{\bar{B}X} = \\
&= \prod_{04}^{\bar{U}X} = \prod_{04}^{\bar{C}X} = \prod_{04}^{\bar{R}X} = \prod_{14}^{\bar{B}X} = \\
&= \prod_{05}^{\bar{U}X} = \prod_{05}^{\bar{C}X} = \prod_{05}^{\bar{R}X} = \prod_{05}^{\bar{B}X} \equiv \pi_e
\end{aligned}$$

Item-specific error rate model
As against the assumption in the Proctor model, Clogg & Sawyer (1981) propose a model in which each dichotomous item has a different response error. In particular, rather than assuming a single response error (π_e), this model considers four distinct response errors (π_U , π_C , π_R and π_B). The item-specific error rate model is obtained by imposing the following constraints on the conditional probabilities:

$$\Pi_{11}^{\overline{U}X} = \Pi_{02}^{\overline{U}X} = \Pi_{03}^{\overline{U}X} = \Pi_{04}^{\overline{U}X} = \Pi_{05}^{\overline{U}X} = \pi_U$$
$$\Pi_{11}^{\overline{C}X} = \Pi_{12}^{\overline{C}X} = \Pi_{03}^{\overline{C}X} = \Pi_{04}^{\overline{C}X} = \Pi_{05}^{\overline{C}X} = \pi_C$$
$$\Pi_{11}^{\overline{R}X} = \Pi_{12}^{\overline{R}X} = \Pi_{13}^{\overline{R}X} = \Pi_{04}^{\overline{R}X} = \Pi_{05}^{\overline{R}X} = \pi_R$$
$$\Pi_{11}^{\overline{B}X} = \Pi_{12}^{\overline{B}X} = \Pi_{13}^{\overline{B}X} = \Pi_{14}^{\overline{B}X} = \Pi_{05}^{\overline{B}X} = \pi_B$$

True-type-specific error rate model

Also proposed by Clogg & Sawyer (1981), the true-type-specific error rate model assumes that consumers in different latent classes (segments) have different response errors, but that these errors are the same for all the items of the scale. Therefore, this third model considers five response errors, one for each latent class. The constraints to be imposed on the conditional probabilities of the general latent class analysis model are:

$$\Pi_{11}^{\overline{U}X} = \Pi_{11}^{\overline{C}X} = \Pi_{11}^{\overline{R}X} = \Pi_{11}^{\overline{B}X} = \pi_{C1}$$
$$\Pi_{01}^{\overline{U}X} = \Pi_{12}^{\overline{C}X} = \Pi_{12}^{\overline{R}X} = \Pi_{12}^{\overline{B}X} = \pi_{C2}$$
$$\Pi_{03}^{\overline{U}X} = \Pi_{03}^{\overline{C}X} = \Pi_{13}^{\overline{R}X} = \Pi_{13}^{\overline{B}X} = \pi_{C3}$$
$$\Pi_{04}^{\overline{U}X} = \Pi_{04}^{\overline{C}X} = \Pi_{04}^{\overline{R}X} = \Pi_{14}^{\overline{B}X} = \pi_{C4}$$
$$\Pi_{05}^{\overline{U}X} = \Pi_{05}^{\overline{C}X} = \Pi_{05}^{\overline{R}X} = \Pi_{05}^{\overline{B}X} = \pi_{C5}$$

Intrusion-omission error model

Dayton & Macready (1976) propose a scaling model in which there are two types of response errors: an intrusion error and an omission error. An intrusion error ( ) is the error committed when the consumer gives a positive response to an item in a vector in which the expected response is negative. Analogously, an omission error ( ) is the error committed when the consumer gives a negative response to an item in a vector in which the expected response is positive. The corresponding constraints to impose on the conditional probabilities of the general latent class analysis model are:

$$\Pi_{11}^{\overline{U}X} = \Pi_{11}^{\overline{C}X} = \Pi_{12}^{\overline{C}X} = \Pi_{11}^{\overline{R}X} = \Pi_{12}^{\overline{R}X} = \Pi_{13}^{\overline{R}X} = \Pi_{11}^{\overline{B}X} = \Pi_{12}^{\overline{B}X} = \Pi_{13}^{\overline{B}X} = \Pi_{14}^{\overline{B}X} = \pi_I$$
$$\Pi_{02}^{\overline{U}X} = \Pi_{03}^{\overline{U}X} = \Pi_{04}^{\overline{U}X} = \Pi_{05}^{\overline{U}X} = \Pi_{03}^{\overline{C}X} = \Pi_{04}^{\overline{C}X} = \Pi_{05}^{\overline{C}X} = \Pi_{04}^{\overline{R}X} = \Pi_{05}^{\overline{R}X} = \Pi_{05}^{\overline{B}X} = \pi_O$$

Latent distance model

The last scale model to be used in the present study to measure the scalability of the intent to purchase online tourism products and services is the latent distance model of Lazarsfeld & Henry (1968). This model assumes that the error of an affirmative response to a given item on the scale is different from the error of a negative response to that same item. This distinction between affirmative and negative response errors is established for all the items of the scale with the exception of the two extreme items. I.e., for the easiest (U) and the most difficult (B) items there is only a single response error. The corresponding constraints to be imposed on the conditional probabilities for this model are as follows:

$$\Pi_{11}^{\overline{U}X} = \Pi_{02}^{\overline{U}X} = \Pi_{03}^{\overline{U}X} = \Pi_{04}^{\overline{U}X} = \Pi_{05}^{\overline{U}X}$$
$$\Pi_{11}^{\overline{C}X} = \Pi_{12}^{\overline{C}X}$$
$$\Pi_{03}^{\overline{C}X} = \Pi_{04}^{\overline{C}X} = \Pi_{05}^{\overline{C}X}$$
$$\Pi_{11}^{\overline{R}X} = \Pi_{12}^{\overline{R}X} = \Pi_{13}^{\overline{R}X}$$
$$\Pi_{04}^{\overline{R}X} = \Pi_{05}^{\overline{R}X}$$
$$\Pi_{11}^{\overline{B}X} = \Pi_{12}^{\overline{B}X} = \Pi_{13}^{\overline{B}X} = \Pi_{14}^{\overline{B}X} = \Pi_{05}^{\overline{B}X}$$

4. Results and discussion

Analysis of the results

As noted above, the methodological approach used for this analysis was to measure the scalability of items U, C, R, and B from a sample of 962 tourists surveyed in any of the so-called medium-sized towns of Andalusia. Based on the observed frequencies for the 16 possible response vectors, we estimated the five models described above. The results are listed in Table 1 (all calculations made with LEM[2] software).

Table 1: Estimation of models with errors of measurement for tourists in the medium-sized towns of Andalusia.

Model	L^2	d.f.	Signif.
Proctor model	735.9981	10	0.0000
Item-specific error rate model	84.9605	7	0.0000
True-type-specific error rate model	16.1655	6	0.0129
Intrusion-omission error model	498.3687	9	0.0000
Latent distance model	2.4205	5	0.7884

In Table 1, the likelihood-ratio chi-squared statistic compares the observed frequencies with the corresponding frequencies estimated in each of the above models. As one can see, the fit is inadequate (significance level less than 0.05) in all the proposed models except the latent distance model for which the test gives a very low value, suggesting that this model fits quite well the observed frequencies (significance level greater than 0.05 and very high).

The estimates of the parameters of the latent distance model are given in Table 2.

Table 2: Latent class probabilities and conditional probabilities of the latent distance model (estimates).

		Conditional probabilities				
Latent class probabilities		Class 1	Class 2	Class 3	Class 4	Class 5
Class 1 {0000}	U 1	0.0165	0.9835	0.9835	0.9835	0.9835
0.2990	U 0	0.9835	0.0165	0.0165	0.0165	0.0165
Class 2 {1000}	C 1	0.3158	0.3158	0.9886	0.9886	0.9886
0.0317	C 0	0.6842	0.6842	0.0114	0.0114	0.0114
Class 3 {1100}	R 1	0.2422	0.2422	0.2422	1.0000	1.0000
0.0942	R 0	0.7578	0.7578	0.7578	0.0000	0.0000
Class 4 {1110}	B 1	0.0603	0.0603	0.0603	0.0603	0.9397
0.5752	B 0	0.9397	0.9397	0.9397	0.9397	0.0603
Class 5 {1111}						
0.0000						

[2] Latent class models were estimated using the free computer program LEM (Vermunt, 1997).

From a reading of Table 2, one can deduce the following segmentation of the tourism market of the medium-sized towns of Andalusia with respect to the readiness to buy travel services and products online:

- *Class 1 {0000} (offline tourists)* are tourists who live with their backs to the new information and communication technologies, since they have a minimal probability of using the Internet, of making online consultations or reservations, or of purchasing tourism goods and services online. They represent nearly 30% of the overall tourist market of these destinations in Andalusia.
- *Class 2 {1000} (adverse tourists)* represent only 3% of the total market, and are characterized by only using the Internet as an information source to discover the touristic reality of Andalusia. However, they are very unlikely to use the Internet to search for joint tourism programs or packages, and neither therefore will they be interested in reserving or purchasing them.
- *Class 3 {1100} (interested tourists)* are tourists with a high probability of consulting online the offer of joint transport and accommodation packages in the medium-sized towns of Andalusia. However, their perception of risk is still very high, which inhibits them from booking and purchasing these packages online. They represent between 9% and 10% of the total tourist population surveyed.
- *Class 4 {1110} (trusting tourists)* are tourists who, unlike the previous cases, have a much lower risk perception. This in all cases leads them to book tourism products and services online. However, their level of trust in purchasing online is still not very high, since they are not in favour of using the network as a means of payment for the tourism product or service they have reserved. They were the most numerous of the tourist population analyzed, representing more than 57% of the total.
- *Class 5 {1111} (digital tourists)* are tourists completely identified with the Internet in as far as their tourist experience is concerned. They have complete trust in the network as an instrument of booking and purchasing tourism products and packages. They are therefore the ideal clients of online travel agencies, and in general of the offer of tourism which is marketed through the Internet. Unfortunately, in the tourism market that was analyzed in the present work, they were inexistent (representing 0% of that market).

Ultimately, it will be interesting to determine the sociodemographic profile of these five segments in order to characterize them more fully. Unfortunately, for the adverse, interested, and digital tourists, there was too little statistical information available in the sample (low observed frequencies) for these three segments to be characterized reliably and consistently. This was not the case, however, for the offline and trusting tourists. For this reason, sociodemographic characterization was only possible with these two segments. They were, moreover, the most significant since they represented over 87% of the total population. This characterization is presented in Table 3.

Table 3: Profiles of the offline and trusting tourists of the medium-sized towns in Andalusia.

	Offline tourists	*Trusting tourists*
Sex:		
Man	58.2%	72.6%
Woman	41.8%	27.4%
Nationality:		
Spanish	86.6%	37.2%
Foreign	13.4%	62.8%
Level of studies:		
None	0.0%	0.0%
Primary	11.0%	1.0%
Secondary	29.4%	13.9%
Higher	59.6%	85.1%
Average age:	41 years old	45 years old
Travel mode:		
Alone	12.3%	7.3%
Couple	54.2%	74.7%
Family	19.0%	10.8%
Friends	11.8%	6.9%
Other	2.7%	0.3%
Annual travel frequency:		
Once	6.6%	7.6%
Twice/thrice	68.3%	80.9%
More than thrice	25.1%	11.5%
Mean duration of trip:	4.2 days	8.7 days
Mean budget for trip:	664 euros	1730 euros
Use of Internet resources:		
Social networks	0.1%	1.0%
Institutional portals	0.1%	2.1%
Search engines	0.3%	2.8%
Google map	0.1%	1.7%

As can be seen in Table 3, there were significant differences between these two segments of tourism consumers. For example, although male tourists were in the majority in both, their presence was considerably greater among the trusting tourists, representing nearly three-quarters of the total. There were also significant differences in the nationality of the two segments. Indeed, the vast majority of the offline tourists were Spanish, while in the trusting tourists segment there was a clear predominance of foreign tourists. It seems clear, therefore, that information and communications technologies are far more consolidated as a channel for marketing tourism products outside Spain than within the country.

The educational level also marked differences in the profiles of the two segments. It was much higher among the trusting tourists than the offline tourists, with more than 85% of the former having higher education compared with only 60% of the latter.

Unlike the foregoing variables, age was not a determining factor in the characterization of the two segments. For the offline tourists the average age was around 41 years, and for the trusting tourists it was about 45 years, a difference that does not seem to be overly significant.

With respect to the form of travel, for the trusting tourists segment this was mainly as couples (three-quarters of the total), whereas for the offline tourists segment there was a greater presence of consumers travelling with family or with friends.

There were also notable differences between the two segments regarding the average length of the trip, and the overall budget for it. On average, the trusting tourists stayed twice as long in these medium-sized towns of Andalusia than the offline tourists (8.7 vs 4.2 days). This greater duration of the trip was reflected in the overall travel budget, which amounted to just over 600 euros among the offline tourists, rising to above 1700 euros among the trusting tourists segment.

Finally, although the use of the technological resources of the Internet to learn more about the town that the tourists have visited was low in both segments, there was a definite greater use of these resources by the trusting tourists segment since their use by the offline tourists segment was practically nil.

Management implications

Having summarized the most important results of this study we shall now discuss their implications for management, highlighting the aspects that policymakers should consider when dealing with the relationships between destinations and their clients. First, there was a strikingly high percentage of respondents (almost 30%) who did not use the Internet, not even to look up information about the destination they visited, much less to make online reservations or purchases of tourism products or services. This is therefore a datum to be taken into consideration in management strategies, especially if it is possible, as was done in the present study, to determine the sociodemographic profile of this segment.

Our results showed a very specific profile of the offline tourist. Most visitors of this segment were Spanish women, with a medium-high educational level, traveling as a couple two or three times a year, and using no type of Internet resource to organize either their trip or their lodging. Of course, this profile does not correspond to the target tourist of these towns. Nonetheless, it clearly represents a very large percentage of their current clientele, so it is necessary to adopt strategies that ensure the destinations' positioning with respect to this type of demand. A threefold approach suggests itself. First, in so far as these are tourists inaccessible digitally, the strategies concerning them will have to be oriented to traditional, i.e., offline, channels. Second, it is necessary to identify whether there exists digital behaviour in any other member of their family unit, since this would create an opportunity to access the offline tourist by digital marketing strategies indirectly, through their receiving information through those other family members. And third, the segment is important enough to merit continual monitoring of its evolution. While its presence seems likely to undergo a gradual decline over time both because of the evolution of society in general and as a result of the strategies that are developed, the question in any case calls for continuing analysis.

Quite different from this group, we identified another larger group (57% of the total), that of the trusting tourist, with a very active Internet behaviour. For this type of tourist, digital marketing is the natural orientation for the development of management strategies. Furthermore, measures should be designed to favour a change of profile towards the digital tourist segment, which is now still a minority. In particular, these tourists must be given incentives to purchase online. To this end, policymakers should first structure the offer of tourism in these towns for online promotion and marketing. Among other resources, this will require a suitable professional online platform on which to organize this offer. It will also need the design and development of technological solutions to facilitate online marketing on the part of the companies involved, using open source tools that cover all their B2B and B2C requirements and functionality. Second, such a platform opens up the possibility of developing a system to orchestrate bookings, thereby increasing the visibility and competitiveness of the firms and destinations on the Internet. The greater visibility of the

offer will facilitate the generation of direct client-provider bookings. Third, it is essential to guarantee the security of the chain of purchase, thereby reducing the aversion to risk in buying online shown by these tourists. And fourth, the online purchase of these towns' tourism products and services needs to be made attractive, with strategies designed to create loyalty, with discounts, gifts, etc.

The trusting tourist segment includes a very high proportion of foreign tourists, mostly men with higher education, and usually travelling in couples. This information is fundamental in shaping an attractive tourism offer for this profile. Their mean budget and duration of the trip are greater than the average, suggesting that their motivation and exigency with respect to the destination will also be above the mean. Consequently, it will be necessary to develop products of specific interest through a process of microsegmentation. These are people who are accustomed to the use of technologies, and who value positively the inclusion of these techniques in the offer of tourism destinations as regards both the dissemination of information (at the origin and at the destination) and the technification of the tourism product.

Despite all this, it has to be added that in general, regardless of the segment analyzed, really very little use is made of Internet resources (social networks, search engines, Google Map, etc.). Hence again, an appropriate management approach is needed to ensure as great a penetration as possible of these destinations through the resources that are used. The online platform suggested above will be a key element in this strategy, as will be the development of programs of support to the sector of e-marketing and Web 2.0 environments.

Finally, it is necessary to bear in mind the cross-sectional nature of the present study, and the fact that it was carried out in a limited geographical area. Both circumstances condition the results, and hence the possibility of generalizing them beyond the destinations that were actually analyzed. It would be desirable to extend the study to the whole of Andalusia, in order to have the referent of a tourism macrodestination with which these towns have a close relationship. It would then be possible to compare the behaviour of tourism demand in the two cases, which would help confirm or reject some of the claims made in this study.

It was impossible to determine the sociodemographic profile of three of the five segments identified (the adverse, interested, and digital tourists). The small numbers of tourists who were categorized as belonging to these segments make the corresponding statistical information unreliable and inconsistent. The sample of visitors surveyed would therefore have to be enlarged in order to have a greater volume of information available.

It could also be very interesting to extend the research so as to identify some important aspects of the behaviour of the different tourist segments identified, in particular, those associated with their motivations, expectations, and needs. This would doubtless facilitate the creation of tourism products and services better tailored to the demand. Such analyses would complete the present study.

Conclusions

The growing importance that the Internet is beginning to acquire as a tool for distribution in the world of travel is conditioning the marketing and management strategies of tourism providers. These have an ever more urgent need to understand consumers' attitude towards online purchasing. This need is most patent for the most vulnerable agents – small firms and emerging tourist destinations – especially in today's global and changing environment.

Segmenting the market into homogeneous groups enables policymakers to better match their offer to consumer demands, facilitating their decision-making process, and above all ensuring its greater efficiency. To perform this segmentation, in the present case related to the readiness to purchase tourism services and products online as expressed by tourists visiting medium-sized towns in Andalusia (Spain), we have used an innovative methodological approach based on latent class analysis.

The evidence obtained in the study indeed supports the hypothesis of the existence of different groups of tourists in these towns, with clearly differentiated behaviour respecting purchasing online. Five groups of tourists were distinguished, although two of them (offline and trusting) accounted for more than 87% of the total respondents. There is thus a bipolar behaviour among the tourists visiting these towns which will hinder the design of appropriate strategies. However, the analysis also revealed the profile of these tourists, the nature of their trip, and their tourist spending. This information will undoubtedly help meet the needs and desires of tourists, and to improve the offer in order to achieve greater expenditure.

Also, the results demonstrate the interest of the technique used for the process of segmentation. Indeed, unlike cluster analysis, which only allows segmentation based on distance, meaning that it simply groups together individuals who express a similar pattern of behaviour, latent models with errors of measurement permit segmentation based on probability, and therefore not only delimit the different segments, but also give the probability that any individual of a given group will purchase tourism services and/or products online, thereby establishing a scale of increasing willingness to buy online.

This option of segmentation is therefore extremely attractive for those who have to make management decisions in the field of tourism. As well as having information on the different segments that make up their customer base, they will be able to rank them on the likelihood that the individuals comprising them will present a certain behaviour (in this case, their readiness to purchase online). This will not only facilitate the identification, quantification, and accessibility of the segments, but also the establishment of priorities in the design and implementation of specific strategies for each group.

In sum, the results of the present study highlight two key issues for the management of tourism in the middle-sized towns of Andalusia. One is that the tourists who currently visit these towns have a very generic profile, typical of tourism destinations that lack an active management strategy to ensure their access to select markets and segments of a higher level. Consequently, the current tourism demand of these towns has a spontaneous character, and does not respond to a profile better identified with their potential to generate offer. The other is the need for the strategies of this active management to be knowledge-based. Only this will ensure a greater capacity for understanding and accessing different markets and segments, so that the offer can adapt to the needs and expectations of not only the real demand, but above all of the potential demand.

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